

REMARKS

In accordance with the foregoing, claims 1 and 8 have been amended. Claims 1-15, 17-22, 31 and 32 are pending and under consideration. No new matter has been presented.

REJECTION UNDER 35 U.S.C. §102:

Claims 1, 2 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Oonishi (U.S. Patent No. 5,295,125).

On page 6, in response to arguments, the Examiner asserts that the Examiner maintains this rejection because as shown in fig. 6 of Oonishi time t_1 is used a reference value for the time it takes for the RPM to reach that value. Furthermore, The Office Action sets forth that Oonishi teaches a method of identifying a type of a disc, comprising: detecting an RPM (Rotation Per Minute) of the disc; and identifying a first disc type by comparing the RPM with a first reference value (fig. 6 see also column 7 lines 65-68 and column 8 lines 1-6).

By way of review, Oonishi discloses "the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disc until the disk reaches a predetermined rotating speed as substrate discriminating means, a known rotating speed detecting system or circuit 70 which detects the rotating speed of the optical disk on the basis of an output signal of the rotary motor 60 concerning the rotating speed ω_0 , and the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disk until the disk reaches a predetermined rotating speed ω_0 , on the basis of an output signal of the rotating speed detecting circuit 70 to discriminate the material of the disk substrate in accordance with whether the detected time t_1 or t_2 is longer or shorter than a predetermined reference time t_0 that is, whether a time difference from the reference time t_0 is positive or negative (see FIG. 6). The substrate discriminating circuit 71 is provided with a timer which starts the timing operation upon start of the rotation of the motor 60 and stops the timing operation when the predetermined rotating speed is reached or detected."(col. 7, line 64 to col. 8, line 10-emphasis added).

As noted above, in Oonishi, in order to discriminate the material of the disc, the driver has to retain at least one time reference t_1 or t_2 and a predetermined rotating speed ω_0 .

Furthermore, FIG. 7 of Oonishi clearly shows that rotation speed ω_0 is the same between DISK SUBSTRACT A and DISK SUBSTRACT B but the differences are the times to reach a predetermined rotating speed of disk ω_0 .

As such, Oonishi can identify a disc type by the comparing the time between t0 and t1 or t2.

In contrast, claim 1 sets forth that "detecting an RPM (Rotation Per Minute) of the disc; and identifying a first disc type by comparing the RPM with a first reference value as recited in claim 1.

Therefore, in claim 1, in order to identify a disc type, only an RPM and a reference value(RPM) are needed to know instead of obtaining not only a predetermined rotating speed ω_0 and but also a time to reach predetermined rotating speed ω_0 disclosed in Oonishi.

As such, it is respectfully submitted that Oonishi does not disclose the invention recited in claim 1.

As such, Oonishi requires a timer to check time but claim 1 does not require a timer for carrying out the same function.

Accordingly, it is respectfully submitted that claim 1 does not disclosed the invention recited in claim 1.

Regarding claim 2, the Office Action sets forth that Oonishi teaches "identifying of the first disc type includes determining whether the disc is a DVD(-) type or a DVD(+) type (Oonishi teaches discriminating between a CD and a DVD. A DVD must be either a (+) or a (-).

By way of review, as acknowledged by the Examiner, Oonishi merely teaches "discriminating between a CD and a DVD".

The invention in Oonishi is to discriminate between a CD and a DVD but the present application is not. As such, Oonishi fails to teach "whether identifying of the first disc type includes determining whether the disc is a DVD(-) type or a DVD(+) type."

Accordingly, it is respectfully submitted that Oonishi does not disclose the invention recited in claim 2.

Regarding claim 8, the Office Action sets forth that Oonishi teaches an apparatus identifying the type of the disc by comparing an RPM of the disc detected using a frequency signal generated at the motor with a first reference value(fig. 6 see also column 7 lines 65-68 and column 8 lines 1-6).

Claim 8 has been amended to clarify of the present invention.

By way of review, Oonishi discloses "the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disc until the disk reaches a predetermined rotating speed as substrate discriminating means, a known rotating speed detecting system or circuit 70 which detects the rotating speed of the optical disk on the basis of an output signal of the rotary motor 60 concerning the rotating speed ω_0 , and the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disk until the disk reaches a predetermined rotating speed ω_0 , on the basis of an output signal of the rotating speed detecting circuit 70 to discriminate the material of the disk substrate in accordance with whether the detected time t_1 or t_2 is longer or shorter than a predetermined reference time t_0 that is, whether a time difference from the reference time t_0 is positive or negative (see FIG. 6). (col. 7, line 65 to col. 8, line 6-emphasis added)

In contrast, claim 8 sets forth that "a system controller identifying the type of the disc by comparing an RPM of the disc detected using a frequency signal generated at the motor with a first reference value. As such, In Oonishi, the reference value is a predetermined time but, in claim 8 the reference value is an RPM.

As such, it is respectfully submitted that Oonishi does not disclose the invention recited in claim 8.

REJECTION UNDER 35 U.S.C. §103:

Claims 4-5, 10-11, 13, 15, 17-18 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oonishi in view of Ono et al. (U.S. Patent No. 6,822,936).

Regarding claim 4, the Office Action sets forth that Ono et al. teaches measuring reflectivity of the disc; and identifying a second disc type between a one-time recordable type and a re-recordable type by comparing the reflectivity of the disc with a second disc with a second reference value (fig. 2 element 2090).

By way of review, Ono et al. discloses "after the optical disc is determined as DVD-RAM or DVDRW in determination 2090 (column 10, lines 26-28, also see Fig. 2 element 2090). As noted above, Ono et al. discloses "determination whether a DVD-RAM or a DVDRW comparing reflectivity." Both DVD-RAM and DVDRW are re-recordable types. It is different from "identifying a second disc type between a one-time recordable type and a re-recordable type by comparing the reflectivity of the disc with a second reference value" as recited in claim 4.

As such, it is respectfully submitted that the combination of Oonishi and Ono et al. does not disclose or suggest the invention recited in claim 4.

In addition, claims 5, 10, and 11 are deemed to patentable due at least to its depending from claim 4, as well as for the additional features recited therein.

Regarding claim 13, the Office Action asserts that Ono et al. teaches measuring a reflectivity of light from a disc to identify the disc format as one-time recordable type if the reflectivity is higher than a reflectivity reference value and as a recordable type if the reflectivity is less than the reflectivity reference value.(fig. 2)

Furthermore, the Office Action sets forth Oonishi teaches measuring an RPM of disc to identify the disc format as a DVD(-) type disc if the RPM is lower than a speed reference value or as a DVD(+) type if the RPM is higher than the speed reference value (fig. 6 see also column 7 lines 65-68 and column 8 lines 1-6)

By way of review, Oonishi discloses “the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disc until the disk reaches a predetermined rotating speed as substrate discriminating means, a known rotating speed detecting system or circuit 70 which detects the rotating speed of the optical disk on the basis of an output signal of the rotary motor 60 concerning the rotating speed ω_0 , and the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disk until the disk reaches a predetermined rotating speed ω_0 , on the basis of an output signal of the rotating speed detecting circuit 70 to discriminate the material of the disk substrate in accordance with whether the detected time t_1 or t_2 is longer or shorter than a predetermined reference time t_0 that is, whether a time difference from the reference time t_0 is positive or negative (see FIG. 6).(col. 7, lines 65-68 and col. 8 lines 1-6). As such, In Oonishi, the reference value is a predetermined time but in claim 8 the reference value is an RPM.

Furthermore, Ono et al. discloses “after the optical disc is determined as DVD-RAM or DVDRW in determination 2090 (column 10, lines 26-28, also see Fig. 2 element 2090).

Ono et al. discloses “determination whether a DVD-RAM or a DVDRW by comparing reflectivity.” Both DVD-RAM and DVDRW are re-recordable types. Conversely, claim 13 recites “measuring a reflectivity of light from a disc to identify the disc format as a one-time recordable type if the reflectivity is higher than a reflectivity reference value and as a recordable type if the reflectivity is less than the reflectivity reference value.”

As noted above, a technology of Ono et al. is related to discriminate between different substrates such as CD or DVD but DVD(+) and DVD(-) can not tell from detected substrates because of the same substrates are used for both DVD(+) and DVD(-)types.

As such, it is respectfully submitted that the combination of Oonishi and Ono et al. does not disclose or suggest the invention recited in claim 13.

In addition, claim 15 is deemed patentable due at least to its depending from claim 13, as well as for the additional features recited therein.

Further, claim 32 is deemed patentable due at least the same reasons of claim 13, as well as for the additional features recited therein.

Claims 7, 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oonishi in view of Ono et al. further considered with Aoki (U.S. Patent No. 6,210,773).

Regarding claims 7, and 14, the Office Action acknowledges that Oonishi fails to disclose "the detection of the RPM is performed after converting a motor control mode rotating the disc into a CLV (Constant Linear Velocity) servo mode based on a wobble signal. However the Examiner takes Official Notice that to use a wobble signal for speed control is well known in the art and would have been obvious to use. The rational is as follows: it would have been obvious to provide the apparatus of Ono et al. and Oonishi with wobble speed control of Aoki because it is considered an equivalent alternative to other methods of speed control.

Furthermore, the Office Action sets forth that Aoki teaches the detection of the RPM is performed after converting a motor control mode rotating the disc into a CLV(constant Linear Velocity) servo mode based on a wobble signal (column 1 lines 40-41).

By way of review, Aoki sets forth "the CLV control is carried out by reproducing a wobble signal from a tracking signal of the grooves (col. 1, lines 40-41) however fails to disclose whether the detection of the RPM is performed after converting a motor control mode rotating the disc into a CLV servo mode based on a wobble signal" as recited in claim 7.

As such, it is respectfully submitted that the combination of Ono et al. Oonishi and/or Aoki does not disclose the invention as recited in claim 7.

In addition, claim 14 is deem to patentable due at least to its depending from claim 13, as well as for the additional recitations therein.

In addition, claim 20 is deemed patentable due at least to its dependency from claim 17, as well as for the additional features recited therein.

OBJECTIONS TO THE CLAIMS:

As mentioned above, at page 6 of the Office Action, claims 3, 6, 9,12,19 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, reconsideration of claims 3, 6, 9, 12, 19, 21-22 is respectfully requested based upon the reasons mentioned above.

ALLOWED CLAIM:

Claim 32 has been allowed.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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